REMARKS

Claims 39 have been amended to correct a typographical error. Claim 34 has been canceled. Accordingly, claims 22-33, and 35-43 are currently pending in the application, of which claims 33 and claim 39 are independent. Applicant respectfully submits that the above amendments do not add new matter to the application and are fully supported by the specification. The table below shows where representative support for claim amendments exists in the specification.

Claims	Representative Support
39	Clerical corrections

In view of the above amendments and the following Remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending objections and rejections for the reasons discussed below.

Rejections Under 35 U.S.C. §112, first paragraph

Claims 29-30 and 40-41 stand rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement. In particular, the Office Action states that "[n]owhere does applicant disclose using aluminum or Inconel as additives 'incorportated into' the carbonaceous foam as claimed." Office Action, Page 2. Applicant respectfully traverses this rejection and request reconsideration.

The Examiner is directed to Page 15, line 2 – Page 16 line 19. This portion of the specification describes the use of protective layers which act as oxidation preventive barriers or antioxidant layers. Materials that are disclosed in this section include, metals such as aluminum and inconel, as well as a variety of glass forming metal-halide, carbide or nitride compounds.

An alternative embodiment of the invention is described at page 17, lines 7-13 of the specification. In particular, this embodiment describes "incorporation of appropriate oxidation inhibitors directly into the carbon foam." This portion further states "[a]ppropriate oxidation inhibitors usable in this context include those described above in connection with the application of protective antioxidant layers." As previously discussed at page 15, line 2 – page 16, line 19, oxidation inhibitors described in connection with the application of protective antioxidant layers includes metals such as aluminum and inconel. Therefore, according to page 17, lines 12-13, metals such as aluminum and inconel may be used in the alternative embodiment by incorporation directly into the carbon foam.

Accordingly, Applicant respectfully submits that claims 29-30 and 40-41 comply with 35 U.S.C. § 112, first paragraph.

Rejections Under 35 U.S.C. §112, second paragraph

Claim 34s stand rejected under 35 U.S.C. §112, second paragraph as being indefinite. In particular, the term "structural portion" recited in claim 34 was identified as being indefinite. Claim 34 has been cancelled. Accordingly, Applicant submits that this rejection is now moot. Applicant respectfully requests withdrawal of the 35 U.S.C. §112, second paragraph rejection.

Rejections Under 35 U.S.C. §102

Claims 39, and 42-43, stand rejected under 35 U.S.C. §102(b) as being anticipated by U. S. Patent No. 4,430,108 issued to Hojaji, et al. ("Hojaji"). Applicant traverses this rejection and requests reconsideration. As will be discussed below, Hojaji is directed to glass foams and does not disclose, teach or suggest carbon foams.

Claim 39 requires "an insulating core comprising carbon foam." The Office Action states that "Hojaji teaches a carbon foam formed from coal derived ash or fly ash." Applicant disagrees. Hojaji is directed to a glass foam made from diatomaceous earth, fly ash, or mixtures thereof. *See* Hojaji, abstract; col. 3, lines 25-30; col. 4, lines 65-68. These materials do not form a carbon foam. They form glass foams from their respective oxide constituents.

Glass foam from diatomaceous earth does not form carbon foam. Hojaji states that the predominant constituent of diatomaceous earth is silica (SiO_2). Hojaji, col. 5, lines 4-9. Further, Hojaji describes the typical chemical compositions for diatomaceaous earth in Tables 1 and 2. The primary constituent is silica with several other oxides in minor amounts. Carbon is not listed. Accordingly, a foam made from diatomaceous earth would not have a foam structure made from carbon, i.e., carbon foam. Example 1 proves this point. A foam glass was made with diatomaceous earth and the chemical analysis showed predominantly SiO_2 with other oxides in minor amounts. Accordingly, glass foam formed from diatomaceous earth cannot be considered to be carbon foam.

Next Hojaji describes making carbon foam from fly ash. Hojaji, col. 6, lines 2-68. Hojaji describes the composition of fly ash as a complex aluminosilicate composition which varies from site to site depending on the coal burned. The silica content of fly ash is generally

between about 50-60 weight percent and the alumina content is from about 15 to 25 weight percent. The other major constituents are Fe_2O_3, K_2O and CaO. Hojaji, col. 6, lines 5-11. Hojaji describes another form of ash "wash ash" that is created by washing coal to remove ash content from the coal. Hojaji, col. 6, lines 24-29. Hojaji is using the wash ash as the material to form a glass foam. That is Hojaji is not using coal, but the ash from coal to form a glass foam. Hojaji describes that the wash ash has similar properties to fly ash upon calcining in an oxidizing atmosphere. Id. Accordingly, a foam made from fly ash or wash ash would not would not have a foam structure made from carbon, i.e., carbon foam. Example 23 of Hojaji illustrates this point. Example 23 is a glass foam made from a combination of 80% diatomaceous earth and 20% calcined fly ash. The chemical composition revealed that all of the major constituents were various oxides and not carbon. Nowhere in Hojaji is there disclosure or even a suggestion that the foams being produced are carbon foams.

Since Hojaji describes glass foams and not carbon foam, Applicant respectfully submits that Hojaji does not provided an insulating core comprising carbon foam as required by claim 39. Accordingly Applicant submits that claim 39 and all the claims that depend therefrom including claims 42-43 are not anticipated by Hojaji.

Rejections Under 35 U.S.C. §103

Claims 22-43 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S Patent No. 5,125,992 issued to Hubbard, et al., ("Hubbard") in view of Hojaji. Applicants respectfully traverse this rejection and request reconsideration.

Claims 33 and 39 each require "an insulating core comprising carbon foam." The Office Action states that "Hojaji teach a carbon foam formed from coal derived ash or fly ash" and "it would be obvious to one of ordinary skill in the art at the time of the invention to provide the foam of Hojaji as a substitute for the foam of Hubbard because both invention want heat resistance, high strength, and chemical resistance and the glassy foam has advantages over polystyrene and polyurethanes (taught by Hubbard) in that they are structurally stronger and more heat resistant." Office Action, paragraphs 13 and 15. Applicant respectfully requests reconsideration of this position and contends that Hojaji does not disclose or teach a carbon foam. As discussed above, Hojaji describes and teaches glassy foams made from diatomaceous earth, fly ash, or combinations thereof. These materials are foamed oxides and not foamed carbon. Accordingly, the glassy foams described in Hojaji are not carbon foams. Therefore the combination of Hubbard in view of Hojaji as stated in the Office Action would substitute the glass foams made of oxides for the polystyrene and polyurethane foams taught in Hubbard. This combination still fails to provide all the elements of claims 33 and 39. In particular, this combination fails to provide an insulating core comprising carbon foam.

Further, regarding claim 25, the Office Action states that "the carbon foam [of Hojaji] is calcined (or carbonized)." Office Action, paragraph 18. This emphasizes that glass foams made of oxide materials of Hojaji are significantly different from carbon foams. Accordingly to Hojaji, calcination or carbonization for the glass foams is conducted in an oxidizing atmosphere at temperatures of at least about 500°C. Hojaji, col. 3, lines 30-35. If Hojaji were a carbon foam, in the presence of high heat and oxygen or an oxidizing atmosphere, the carbon foam material would oxidize, severely degrade and possibly burn, destroying the carbon foam

material. In contrast, carbonization or calcination of carbon foam is described in the present application at page 14, lines 1-9. In this portion of the specification it describes that carbon foam is calcined or carbonized using an inert gas. Accordingly, the glass foams made of oxide materials in Hojaji are not considered carbon foams.

Since the combination of Hubbard in view of Hojaji fails to provide an insulating core comprising carbon foam as required by claims 33 and 36, Applicant submits that for at least this reason claims 33 and 36 and all the claims that depend therefrom are not obvious over the combination of Hubbard in view of Hojaji.

Extension of Time

A Petition for a one (3)-month extension of time under 37 C.F.R. §1.136(a) is filed herewith. It is not believed that any further extensions of time are required other than those in the accompanying Petition. If extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned for under 37 C.F.R. §1.136(a). Applicants believe that further fees for net addition of claims are required at this time. Any fees required for extensions of time and any fees for the net addition of claims are hereby authorized to be charged to Deposit Account No. 50331.

Conclusion

Applicant believes that a full and complete response has been made to the pending Office Action and respectfully submits that all of the stated objections and grounds for rejection have been overcome or rendered moot. Should the Examiner feel that there are any issues outstanding

after consideration of this Reply the Examiner is invited to contact the Applicant's undersigned representative at the number below to expedite prosecution.

Respectfully submitted,

Philip D. Lane
Reg. No. 41,140

Date: September 8, 2008

Philip D. Lane
P.O. Box 79318
Charlotte, NC 28271-7063
Tel: 704-301-5007
Fax: 704-843-2318